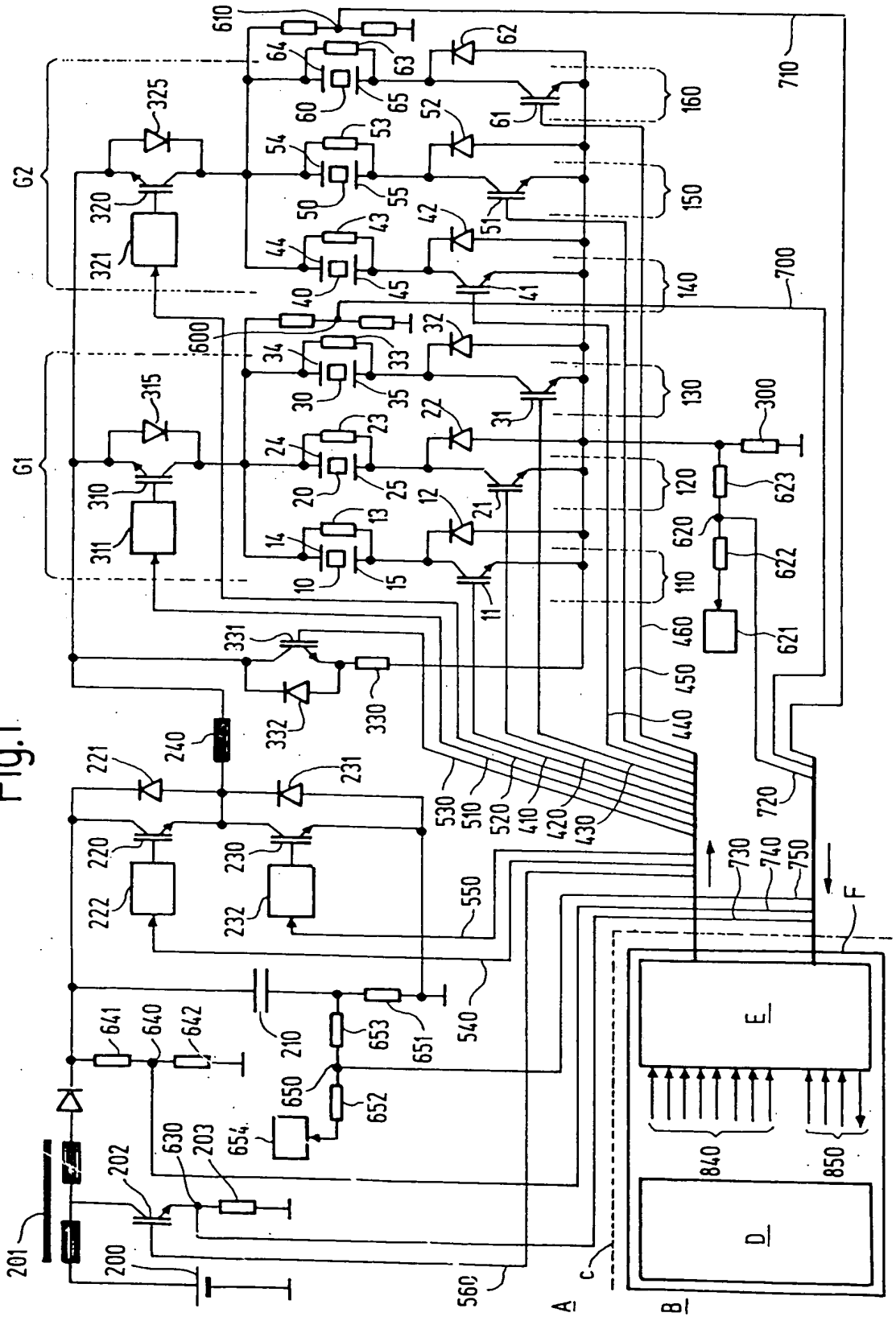
Fig.1


G2
G1
A
B
C
D
E
F
200
201
202
203
210
220
221
222
230
231
232
240
300
310
311
315
320
321
325
330
331
332
410
420
430
440
450
460
510
520
530
540
550
560
600
610
620
621
622
623
630
640
641
642
650
651
652
653
654
700
710
720
730
740
750
840
850

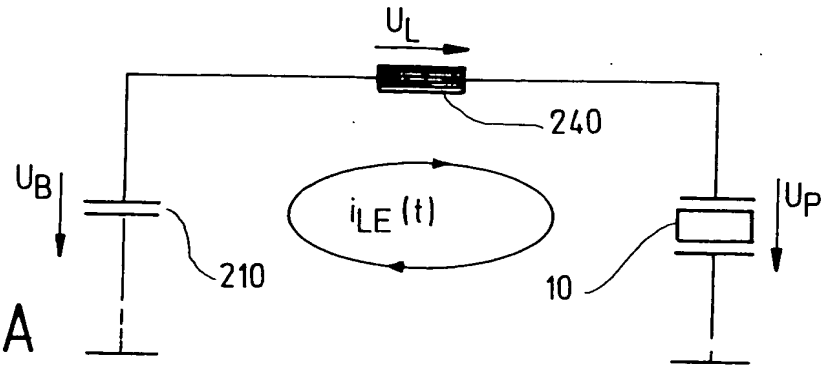


Fig.2A

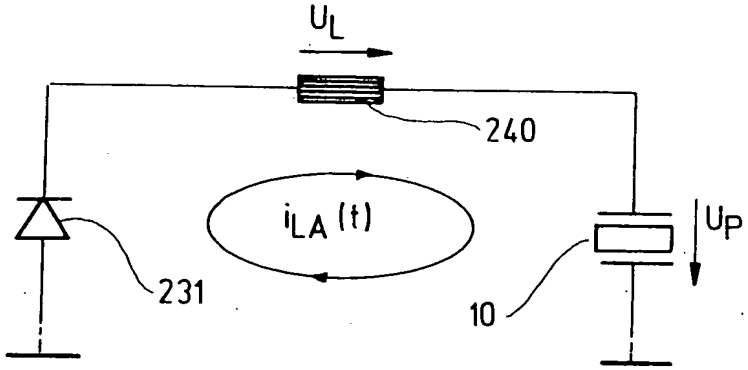


Fig.2B

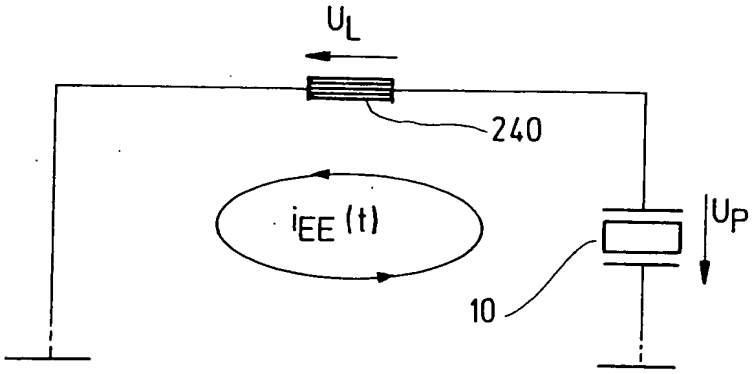


Fig.2C

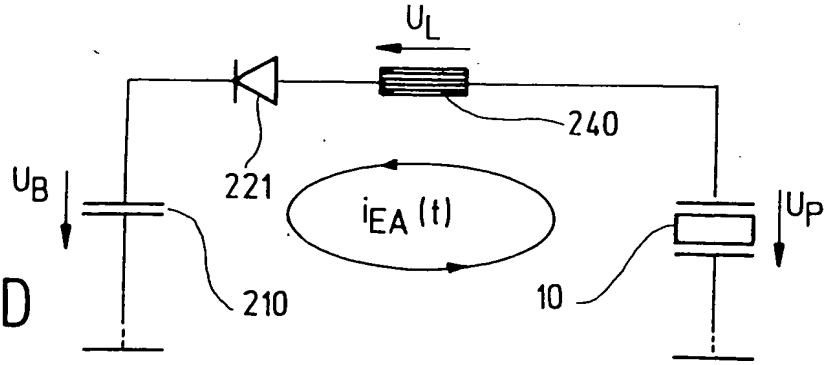


Fig.2D

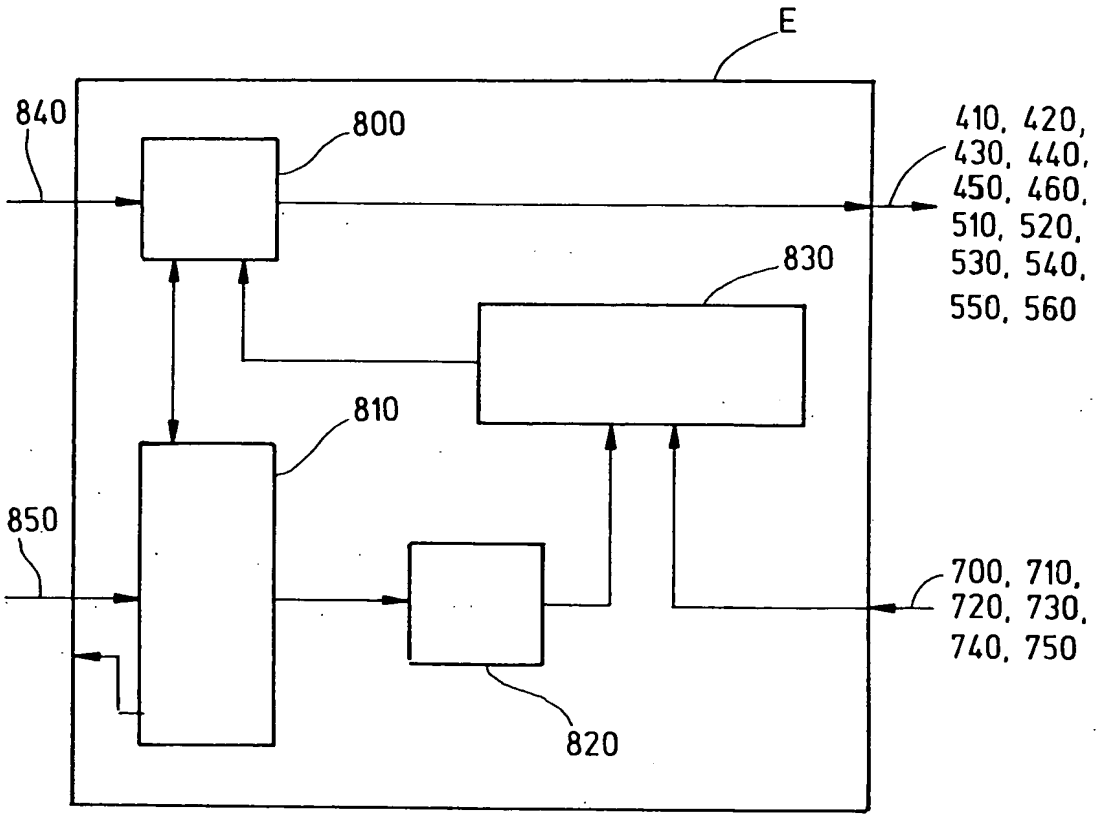

E
840
800
410, 420,
430, 440,
450, 460,
510, 520,
530, 540,
550, 560
830
810
850
700, 710,
720, 730,
740, 750
820

Fig.3

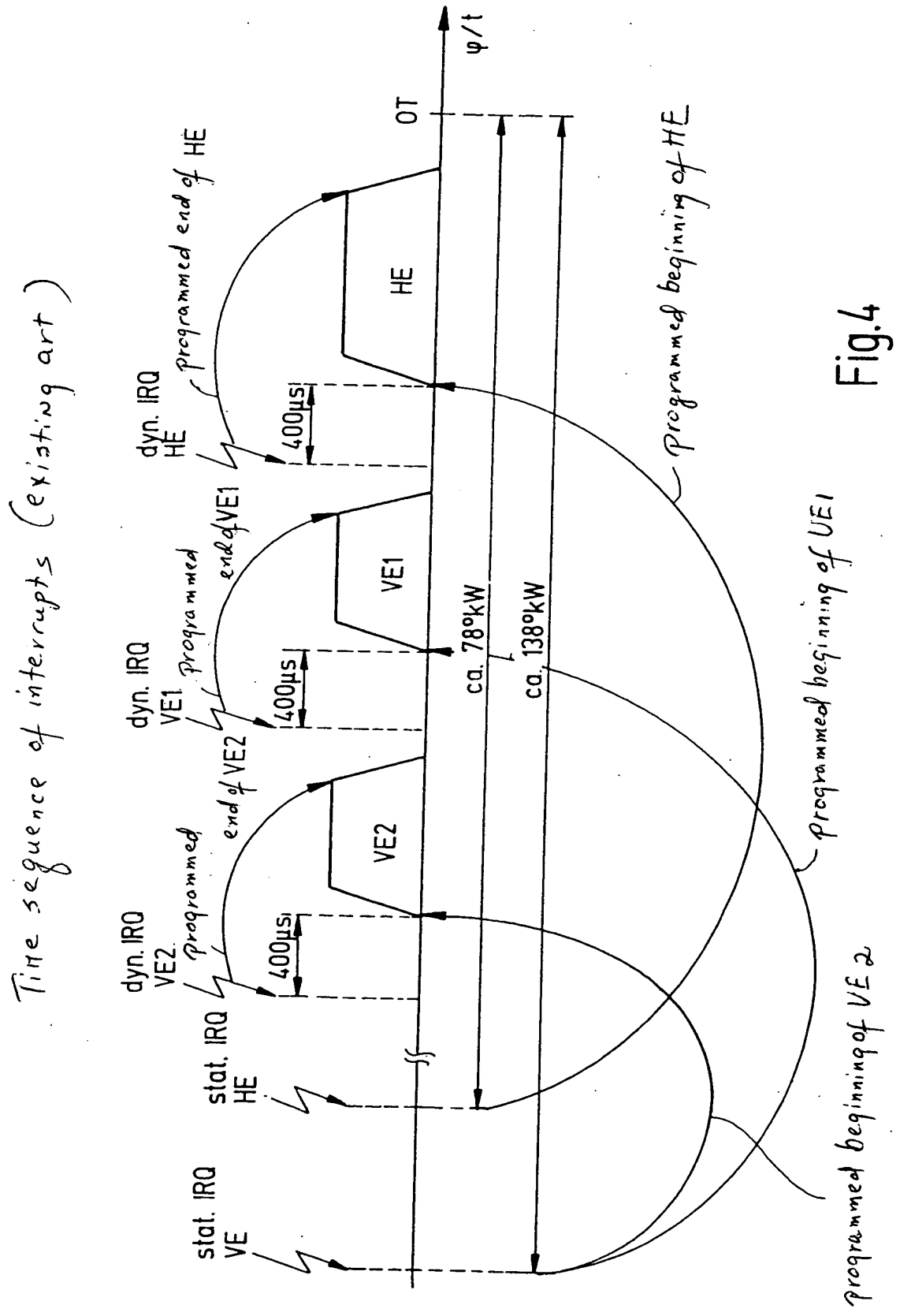
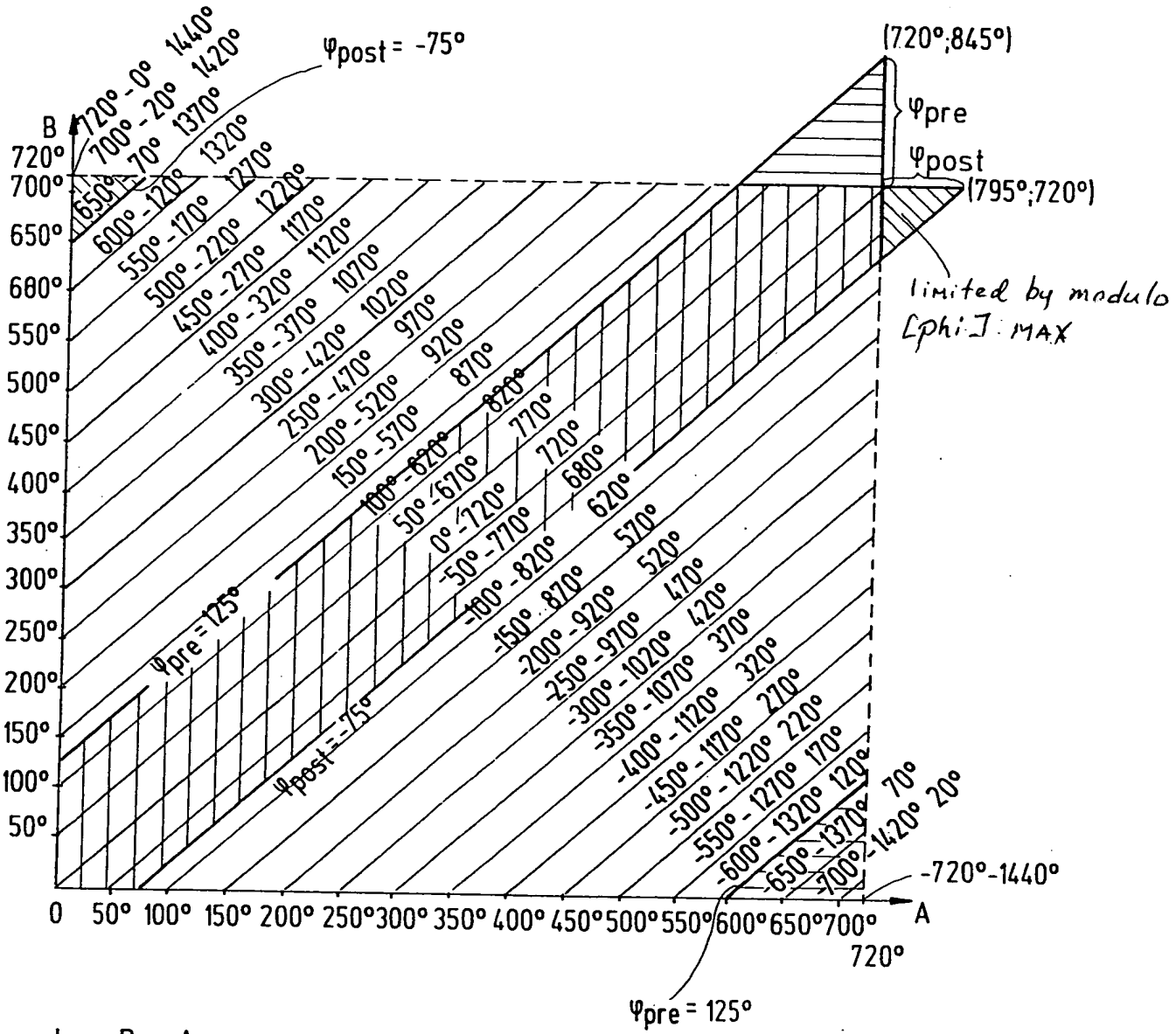

Time sequence of interrupts (existing art)
stat. IRQ VE
stat. IRQ HE
dyn. IRQ VE2
Programmed end of VE2
dyn. IRQ VE1
Programmed end of VE1
dyn. IRQ HE
Programmed end of HE
400µs
400µs
400µs
VE2
VE1
HE
ca. 78°kW
ca. 138°kW
OT
φ/t
Programmed beginning of VE2
Programmed beginning of VE1
Programmed beginning of HE

Fig.4

Collision regions between edge pairs in angular range



$t_k = B - A$

$t_k = B - A - \varphi_{max}$

$t_k = B - A + \varphi_{max}$

Ex.: $\varphi_{post} = 75°$

$\varphi_{pre} = 125°$

$\varphi_{max} = 720°$

Collision for:

$-\varphi_{post} \leq t_k \leq \varphi_{pre}$

$t_k \geq -\varphi_{post}$

$t_k \leq \varphi_{pre}$

Fig.5

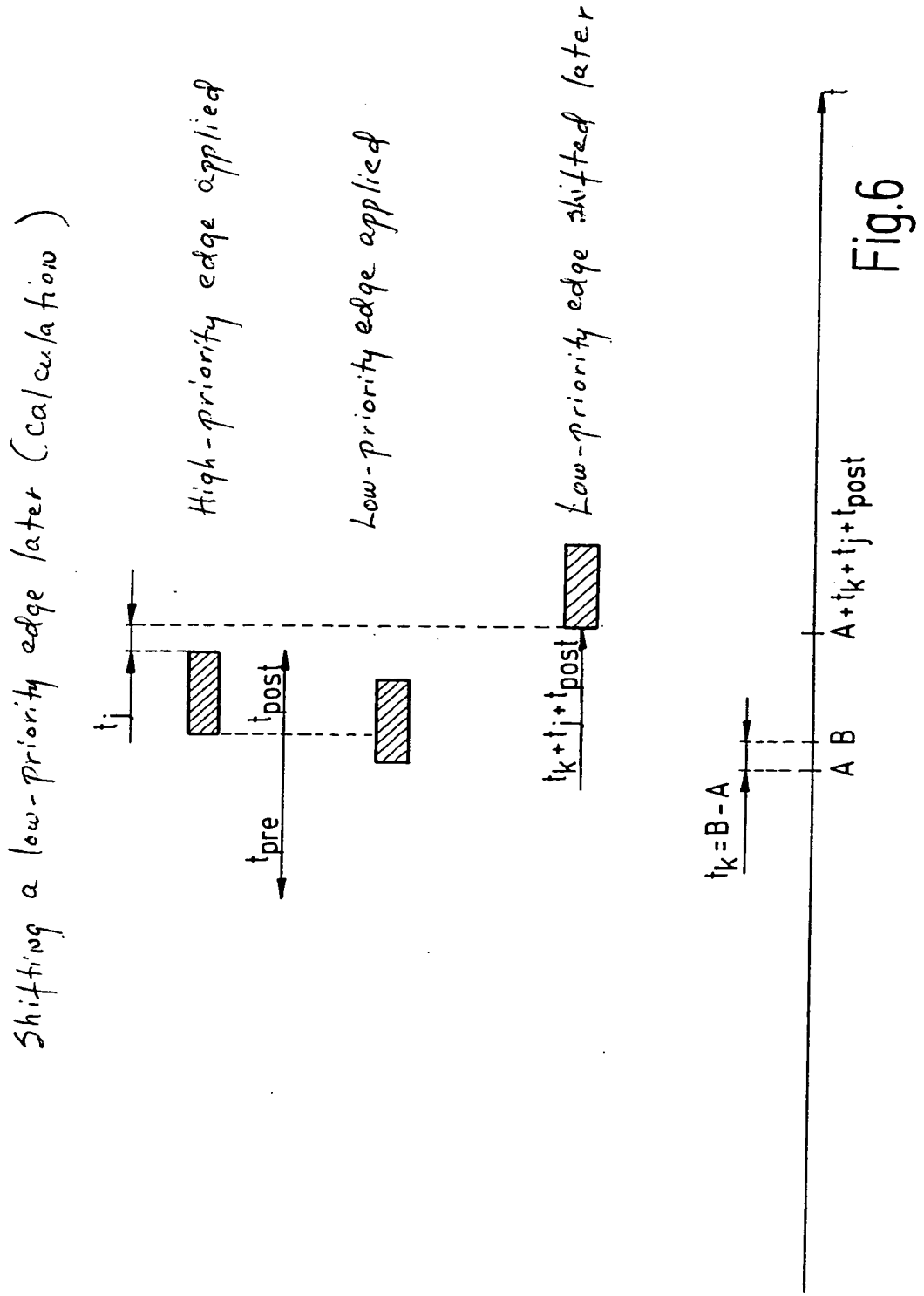

Shifting a low-priority edge later (Calculation)
High-priority edge applied
Low-priority edge applied
Low-priority edge shifted later
t_j
t_{post}
t_{pre}
$t_k+t_j+t_{post}$
$t_k=B-A$
A B
$A+t_k+t_j+t_{post}$

Fig.6

Shortening of a low-priority triggering action (calculation)

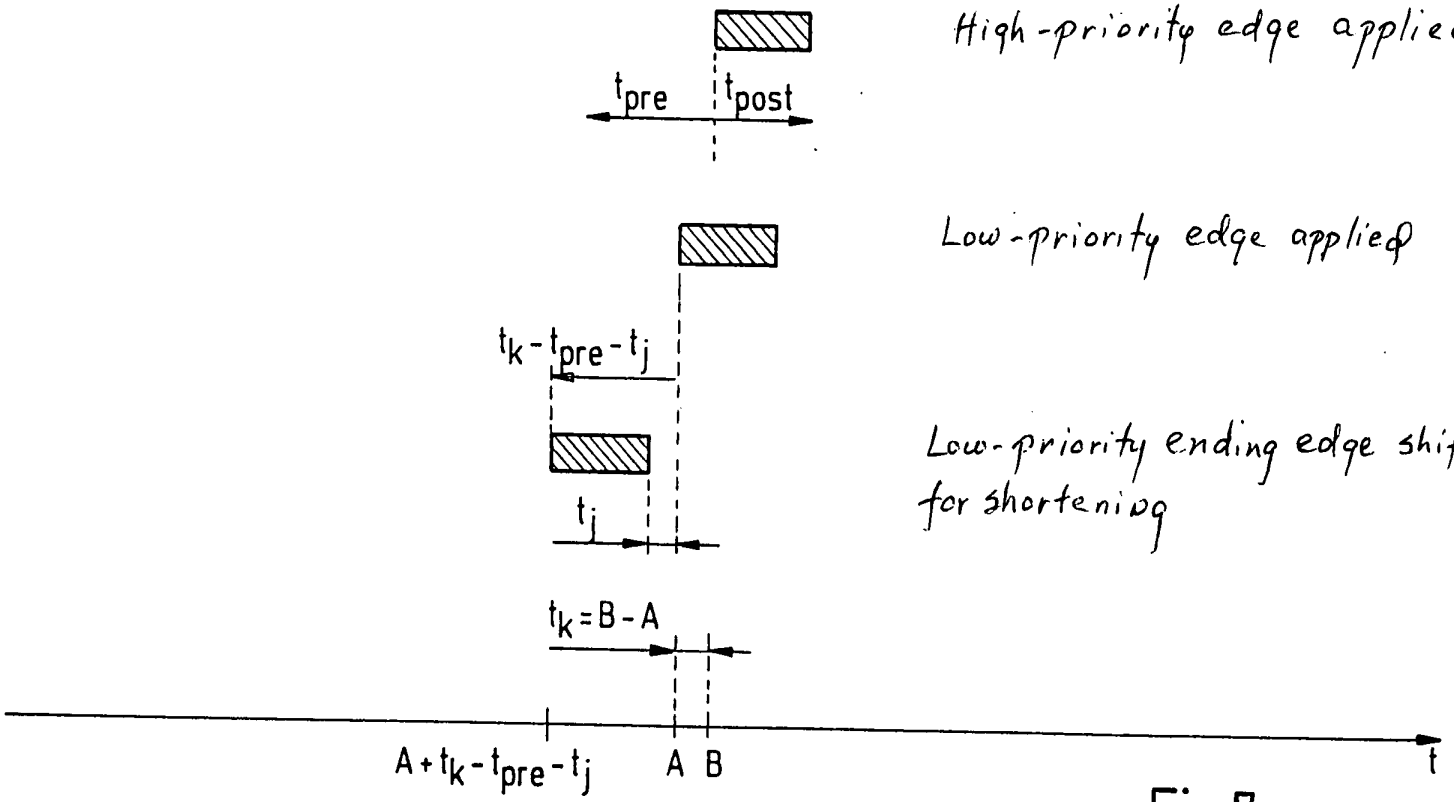


Fig.7